IN THE CLAIMS:

1. An isolated polynucleotide which encodes a protein comprising the amino acid sequence of SEQ ID NO:2.

2. The isolated polynucleotide of Claim 1, wherein said protein has serine/threonine kinase activity.

3. An isolated polynucleotide, which comprises SEQ ID NO:1.

4. An isolated polynucleotide which is complimentary to the polynucleotide of Claim 3.

5. An isolated polynucleotide which is at least 70% identical to the polynucleotide of Claim 3.

6. An isolated polynucleotide which is at least 80% identical to the polynucleotide of Claim 3.

7. An isolated polynucleotide which is at least 90% identical to the polynucleotide of Claim 3.

8. An isolated polynucleotide which hybridizes under stringent conditions to the polynucleotide of Claim 3; wherein said stringent conditions comprise washing in 5X SSC at a temperature from 50 to 68°C.

9. The isolated polynucleotide of Claim 3, which encodes a protein having serine/threonine kinase activity.

10. A vector comprising the isolated polynucleotide of Claim 1.

11. A vector comprising the isolated polynucleotide of Claim 3.

12. A host cell comprising the isolated polynucleotide of Claim 1.

13. A host cell comprising the isolated polynucleotide of Claim 3.

14. A plant cell comprising the isolated polynucleotide of Claim 1.

15. A plant cell comprising the isolated polynucleotide of Claim 3.

16. A transgenic plant comprising the isolated polynucleotide sequence of Claim 1.

17. A transgenic plant comprising the isolated polynucleotide sequence of Claim 3.

18. The transgenic plant of Claim 16, wherein said plant is Arabidopsis thaliania.

19. The transgenic plant of Claim 17, wherein said plaint is Arabidopsis thaliania.

20. The transgenic plant of Claim 16, wherein said plant is selected from the group consisting of wheat, corn, peanut cotton, oat, and soybean plant.

21. The transgenic plant of Claim 16, wherein the isolated polynucleotide is operably linked to an inducible promoter.

22. The transgenic plant of Claim 17, wherein the isolated polynucleotide is operably linked to an inducible promoter.

23. A process for screening for polynucleotides which encode a protein having serine/threonine kinase activity comprising hybridizing the isolated polynucleotide of Claim 1 to the polynucleotide to be screened; expressing the polynucleotide to produce a protein; and detecting the presence or absence of serine/threonine kinase activity in said protein.

24. A process for screening for polynucleotides which encode a protein having serine/threonine kinase activity comprising hybridizing the isolated polynucleotide of Claim 3 to the polynucleotide to be screened; expressing the polynucleotide to produce a protein; and detecting the presence or absence of serine/threonine kinase activity in said protein.

25. A process for screening for polynucleotides which encode a protein having serine/threonine kinase activity comprising hybridizing the isolated polynucleotide of Claim 8 to the polynucleotide to be screened; expressing the polynucleotide to produce a protein; and detecting the presence or absence of serine/threonine kinase activity in said protein.

26. A method for detecting a nucleic acid with at least 70% homology to nucleotide of Claim 1, comprising contacting a nucleic acid sample with a probe or primer comprising at least 15 consecutive nucleotides of the nucleotide sequence of Claim 1, or at least 15 consecutive nucleotides of the complement thereof.

27. A method for producing a nucleic acid with at least 70% homology to nucleotide of

Claim 1, comprising contacting a nucleic acid sample with a primer comprising at least 15 consecutive nucleotides of the nucleotide sequence of Claim 1, or at least 15 consecutive nucleotides of the complement thereof.

28. A method for detecting a nucleic acid with at least 70% homology to nucleotide of Claim 3, comprising contacting a nucleic acid sample with a probe or primer comprising at least 15 consecutive nucleotides of the nucleotide sequence of Claim 3, or at least 15 consecutive nucleotides of the complement thereof.

29. A method for producing a nucleic acid with at least 70% homology to nucleotide of Claim 3, comprising contacting a nucleic acid sample with a primer comprising at least 15 consecutive nucleotides of the nucleotide sequence of Claim 3, or at least 15 consecutive nucleotides of the complement thereof.

30. A method for making SOS2 protein, comprising culturing the host cell of Claim 12 for a time and under conditions suitable for expression of SOS2, and collecting the SOS2 protein.

31. A method for making SOS2, comprising culturing the host cell of Claim 13 for a time and under conditions suitable for expression of SOS2, and collecting the SOS2 protein.

32. A method of making a transgenic plant comprising introducing the polynucleotide of Claim 1 into the plant.

33. A method of making a transgenic plant comprising introducing the polynucleotide of Claim 1 into the plant.

34. A method of increasing the salt tolerance of a plant in need thereof, comprising introducing the polynucleotide of Claim 1 into said plant.

35. A method of increasing the salt tolerance of a plant in need thereof, comprising introducing the polynucleotide of Claim 1 into said plant.

36. A method of increasing the salt tolerance of a plant in need thereof, comprising enhancing the expression of the SOS 2 gene into said plant.

37. An isolated polypeptide comprising the amino acid sequence in SEQ ID NO:2.

38. The isolated polypeptide of Claim 37 which has serine/threonine kinase activity.

39. An isolated polypeptide which is at least 70% identical to the isolated polypeptide of Claim 37 and which has serine/threonine kinase activity.

40. An isolated polypeptide which is at least 80% identical to the isolated polypeptide of Claim 37 and which has serine/threonine kinase activity.

41. An isolated polypeptide which is at least 90% identical to the isolated polypeptide of Claim 37 and which has serine/threonine kinase activity.

42. An isolated polypeptide which is at least 95% identical to the isolated polypeptide of Claim 37 and which has serine/threonine kinase activity.